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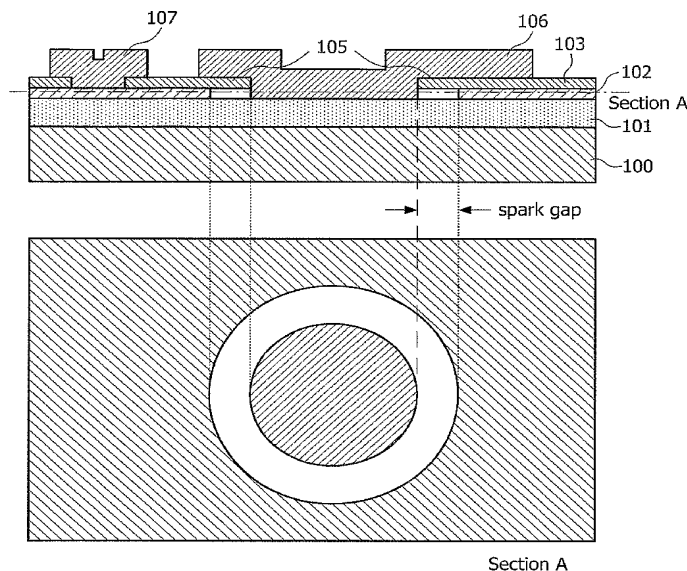
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(54) Title: INTEGRATED CIRCUIT CHIP WITH ELECTROSTATIC DISCHARGE PROTECTION DEVICE



(57) Abstract: The invention is concerned with an integrated circuit chip comprising, in sequence, a substrate layer of a substrate material, an insulating layer of an insulating material, a first electrically conductive layer of a first electrically conductive material, a dielectric layer of a dielectric material and a second electrically conductive layer of a second electrically conductive material, said integrated circuit chip comprising at least one integrated circuit and at least one integrated electrostatic discharge protection device, said electrostatic discharge protection device comprising a pair of spaced center and circumferential electrodes, the center electrode being formed by the first electrically conductive layer and the circumferential electrode being formed by the second electrically conductive layer, said electrodes being separated by a steroidal spark gap cavity, wherein the toroid of the steroidal spark gap cavity comprises a base layer formed by the insulating layer of the integrated circuit chip, a side wall formed by

the circumferential electrode, a cover layer formed by the dielectric layer of the integrated circuit chip, and the center of the toroid being formed by the center electrode comprising a contact pad in contact with the insulating layer, said electrostatic discharge protection device also comprising means to electrically connect the center electrode to input circuit paths to be protected from electrostatic discharge and means to electrically connect the circumferential electrode to an electrostatic discharge path comprising either a connection to a circuit ground or a circuit supply voltage. The invention is also concerned with a method of making such integrated circuit chip.

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